A New Senegalia (*S. seigleri*, Fabaceae: Mimosoideae) from Bahia, Brazil

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ABSTRACT

Senegalia seigleri Ebinger (Fabaceae, Mimosoideae) is described from Bahia, Brazil. The new species is illustrated and compared with its probable nearest relatives. Published on-line www.phytologia.org *Phytologia 99(2): 126-129 (May 9, 2017).* ISSN 030319430.

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Senegalia comprises approximately 102 taxa in the Neotropics (Barros & Morim 2014), 68 in Africa, 45 in Asia, and two in Australia (Maslin et al. 2003a, 2003b; Maslin 2015); of these, eight species occur in two or more areas. Both the Old and New World members of the genus are trees, shrubs, or lianas, armed with prickles, and lacking paired stipular spines. The prickles usually are scattered but in some species are grouped in twos or threes, usually at or near to the nodes; they also occasionally occur in lines and are rarely fused together into lines. Prickles can also occur on the petiole and rachis. Leaves are consistently bipinnately compound with 1 to 50+ pairs of pinnae, the pinnae having 1 to 80+ pairs of leaflets. The usually small leaflets are mostly linear to oblong, not exceeding 10 mm in length, but a few species have leaflets that are lanceolate to oblanceolate and may occasionally exceed 100 mm in length. The petiole and rachis have sessile or stipitate glands in variable positions, though sometimes the glands become specialized and of variable shape with the structure and shape being consistent within a species and of diagnostic importance. The mostly 5-merous (rarely 4-merous) flowers are campanulate, actinomorphic, synsepalous, sympetalous, with numerous stamens (usually 40 to 100), the filaments are mostly not fused and are attached to a more or less tubular or campanulate nectar disc located on the receptacle of the flower, surrounding the usually stipitate ovary. Inflorescences are globose heads or cylindrical spikes occurring solitary or in small clusters in the leaf axils, or grouped into complex axillary or terminal pseudoracemes or pseudopanicles. The legumes are oblong or broadly linear fruits that mostly separate into two valves at maturity. A few species have tardily dehiscent or indehiscent fruits, and some fruits rarely separate into one-seeded loments. The 6 to 20 uniseriate seeds are mostly strongly flattened and have a well-developed pleurogram.

During the course of ongoing work on *Senegalia,* an undescribed species occuring in the state of Bahia in northeastern Brazil was noted from herbarium material. Later, I observed that this material had been examined by Lewis (1987) who declared it to be a new species, but did not name or describe the material. This taxon is clearly distinct and is herein proposed as a new species.

Senegalia seigleri Ebinger, sp. nov. TYPE. Brazil. Bahia: Mun. de Una, Estrada Ilhéus-Una, ± 35 km. de Olivença, ca 15°16'S, 39°04'W, 30 m, (fl.) 2 Dec 1981, *G.P. Lewis & A.M. de Carvalho 731* (holotype: NY). Figure 1.

Diagnosis. *Senegalia seigleri* Ebinger differs from other *Senegalia* by the stamen filaments being distinct above but fused to an elongated tubular nectary that surrounds most of the sessile ovary for a length of about 1.2 mm; the two sessile, oval petiolar glands scattered along the petiole; the smaller but similar rachis glands usually between the uppermost 1 to 2 pinna pairs; the pinnae 4 to 6 pairs/leaf; the leaflets 19 to 36 pairs/pinna with the midvein located submarginal at the base, becoming subcentral at the apex; and the inflorescence a densely 15- to 35-flowered globose head in clusters of 2 to 6 in some leaf axils.

Scrambling to erect **shrub** to 3 m tall; bark not seen; twigs dark purple to purplish brown, not flexuous, terete to slightly ridged, glabrous; short shoots absent; prickles light purplish brown, the apex mostly darker, flattened, recurved, woody, 1-2 x 1-3 mm at the base, glabrous, persistent, common along the twig, petiole and rachis. **Leaves** alternate, 40-70 mm long; stipules not seen; petiole adaxially grooved, 20-30 mm long, glabrous to lightly pubescent; petiolar glands 2, scattered along the petiole with one usually near the lowermost pinna pair, sessile, oval, 0.6-0.9 mm across, apex cup-shaped, glabrous; rachis adaxially grooved, 25-55 mm long, lightly puberulent, an oval gland 0.3-0.7 mm across usually between the uppermost 1 to 2 pinna pairs, apex depressed, glabrous; pinnae 4 to 6 pairs/leaf, 25-60 mm long, 5-10 mm between pinna pairs; paraphyllidia 0.1-0.3 mm long, commonly absent; petiolule 1.1-1.8 mm long; leaflets 19 to 36 pairs/pinna, opposite, 0.7-1.2 mm between leaflet pairs, linear, 4.1-8.2 x 0.9-1.8 mm, glabrous beneath, lateral veins usually obvious, base oblique, truncate on one side, margins not ciliate, apex broadly acute, midvein submarginal at the base, becoming subcentral at the leaflet apex. **Inflorescence** a densely 15- to 35-flowered globose head 15-19 mm across, in clusters of 2 to 6 in the leaf axis; peduncles 8-10 x 0.5-0.8 mm thick, puberulent; receptacle not enlarged; involucre one small bract located on the upper half of the peduncle, early deciduous; floral bracts spatulate, 0.3-0.7 mm long, puberulent, early deciduous. **Flowers** sessile, white; calyx 5-lobed, 3.5-4.5 mm long, appressed puberulent; corolla 5-lobed, 4.2-5.1 mm long, usually glabrous, lobes one-quarter the length of the corolla; stamens 60 to 90, stamen filaments 7.5-9.1 mm long, distinct above, fused below to a tubular nectar disk to 1.2 mm long that surrounds most of the sessile ovary; anther glands absent; ovary sessile, glabrous. **Legumes** not seen. **Seeds** not seen.

Distribution and ecology: *Senegalia seigleri* was collected from a disturbed roadside site, near sea level in southern coastal Bahia, Brazil.

IUCN Red List Status: *Senegalia seigleri* appears to be genuinely rare. Following IUCN (2016) guidelines, a status of VU D2 is proposed, because the new species is known to exist at less than five locations, and only in the state of Bahia, Brazil.

Phenology: *Senegalia seigleri* was collected in flower in February.

Etymology: *Senegalia seigleri* is named for David S. Seigler (1940-), an authority on mimosoid legumes, especially *Acacia* in the broad sense, and curator of the University of Illinois Herbarium (ILL), University of Illinois, Urbana, Illinois, USA.

Discussion: During the examination of numerous specimens of South American *Senegalia* species over the past 32 years I have found 29 species that occur in the state of Bahia in northeastern Brazil. These species include: *S. amazonica* (Benth.) Seigler & Ebinger, *S. aristeguietana* (L. Cárdenas) Seigler & Ebinger, *S. bahiensis* (Benth.) Seigler & Ebinger, *S. fiebrigii* (Hassler) Seigler & Ebinger, *S. giganticarpa* (G. P. Lewis) Seigler & Ebinger, *S. globosa* (A. Bocage & Miotto) de Queiroz, *S. grandisiliqua* (Vellozo) Seigler & Ebinger, *S. grandistipula* (Benth.) Seigler & Ebinger, *S. harleyi* Seigler, Ebinger & Ribeiro, *S. hoehnei* Seigler, M. P. Morim, M. J. E. Barros & Ebinger, *S. irwinii* Seigler, Ebinger & Ribeiro, *S. kallunkiae* (J. W. Grimes & Barneby) Seigler & Ebinger, *S. lacerans* (Benth.) Seigler & Ebinger, *S. langsdorffii* (Benth.) Seigler & Ebinger, *S. lasiophylla* (Benth.) Seigler & Ebinger, *S. loretensis* (J. F. Macbride) Seigler & Ebinger, *S. martii* (Benth.) Seigler & Ebinger, *S. noblickii* Seigler & Ebinger, *S. olivensana* (G. P. Lewis) Seigler & Ebinger, *S. paganuccii* Seigler, Ebinger & Ribeiro, *S. paraensis* (Ducke) Seigler & Ebinger, *S. parviceps* (Speg.) Seigler & Ebinger, *S. piauhiensis* (Benth.) Seigler & Ebinger, *S. polyphylla* (DC.) Britton & Rose, *S. riparia* (Kunth) Britton & Rose, *S. rostrata* (Willd.) Seigler & Ebinger, *S. seigleri* Ebinger, *S. tenuifolia* (L.) Britton & Rose, and *S. tubulifera* (Benth.) Seigler & Ebinger. Of the species listed above, some are common species that occur throughout much of South America and sometimes extend into Central America (*S. loretensis, S. parviceps, S. polyphylla, S. riparia,*

S. tenuifolia, and *S. tubulifera*). Others are rare, and in some cases endemic to Bahia (*S. kallunkiae, S. lasiophylla, S. olivensana,* and *S. seigleri*).

The presence of an elongated tubular nectariferous disk to 1.2 mm in length is rarely encountered in the *Senegalia*. Rico-Arce (2007, p. 21) mentions that some species of *Acacia* s. l. "have stamens joined into small groups or into a short tube," but only lists one example, *Acacia scleroxyla* Tussac [= *Senegalia skleroxyla* = *Parasenegalia skleroxyla* (Tussac) Seigler & Ebinger]. I have rarely encountered this character in individual specimens, but it is not consistent within any *Senegalia* species. Also, I have not seen enough material to determine if this character is consistent with the species *S. seigleri*. Because the existing specimen lacks fruits and seeds, and has only a few flowers in poor quality inflorescences, it is not possible to place *S. seigleri*, without some doubt, into a particular species group. However, the presence of two oval, sessile petiolar glands suggests a relationship with species similar to *S. riparia* and is tentatively placed with this species. All species that I have encountered in the state of Bahia that have two (or more) petiolar glands are keyed below.

Key to the species of *Senegalia* from Bahia with petioles that have two (or more) glands.

1. Inflorescence a long or short cylindrical spike.
   2. Leaflets 4-6 x 0.8-1.4 mm, 25 to 40 pairs/pinna ..... *S. paganuccii*
   2. Leaflets 12-30 x 4-10 mm, 7 to 25 pairs/pinna ..... *S. grandistipula*
1. Inflorescence a globose head.
   3. Petiolar and rachis glands columnar or funnel-shaped with a definite stalk.
      4. Leaflets 6-12 x 1.1-1.8 mm wide ..... *S. irwinii*
      4. Leaflet less than 5 mm long and 1 mm wide.
         5. Rachis glands funnel-shaped, present between most pinna pairs; globose heads 7-11 mm across ..... *S. grandisiliqua*
         5. Rachis glands mostly columnar, present between the uppermost 1 to 10 pinna pairs; globose heads 12-17 mm across ..... *S. hoehnei*
   3. Petiolar and rachis glands sessile, not columnar or funnel-shaped.
      6. Leaflets 4-8 mm wide, 6 to 11 pairs/pinna ..... *S. olivensana*
      6. Leaflets less than 2 mm wide, 18 or more pairs/pinna.
         7. Twigs, petiole and rachis densely pubescent with erect hairs to 0.6 mm long; petiolar glands 1 to 3 scattered along the petiole ..... *S. harleyi*
         7. Twigs, petiole and rachis mostly glabrous or nearly so; petiolar glands 1 or 2.
            8. Petiole gland mostly solitary, elliptical to oblong, 1.9-7.2 mm long, with raised margins; globose heads 9-13 mm across ..... *S. fiebrigii*
            8. Petiolar glands usually 2, oval to orbicular, less than 2.5 mm long; globose heads 13-20 mm across.
               9. Leaflet midvein central to subcentral nearly throughout; calyx 1.5-2.9 mm long ..... *S. riparia*
               9. Leaflet midvein submarginal at base, becoming subcentral at leaflet apex; calyx 3.5-4.5 mm long ..... *S. seigleri*

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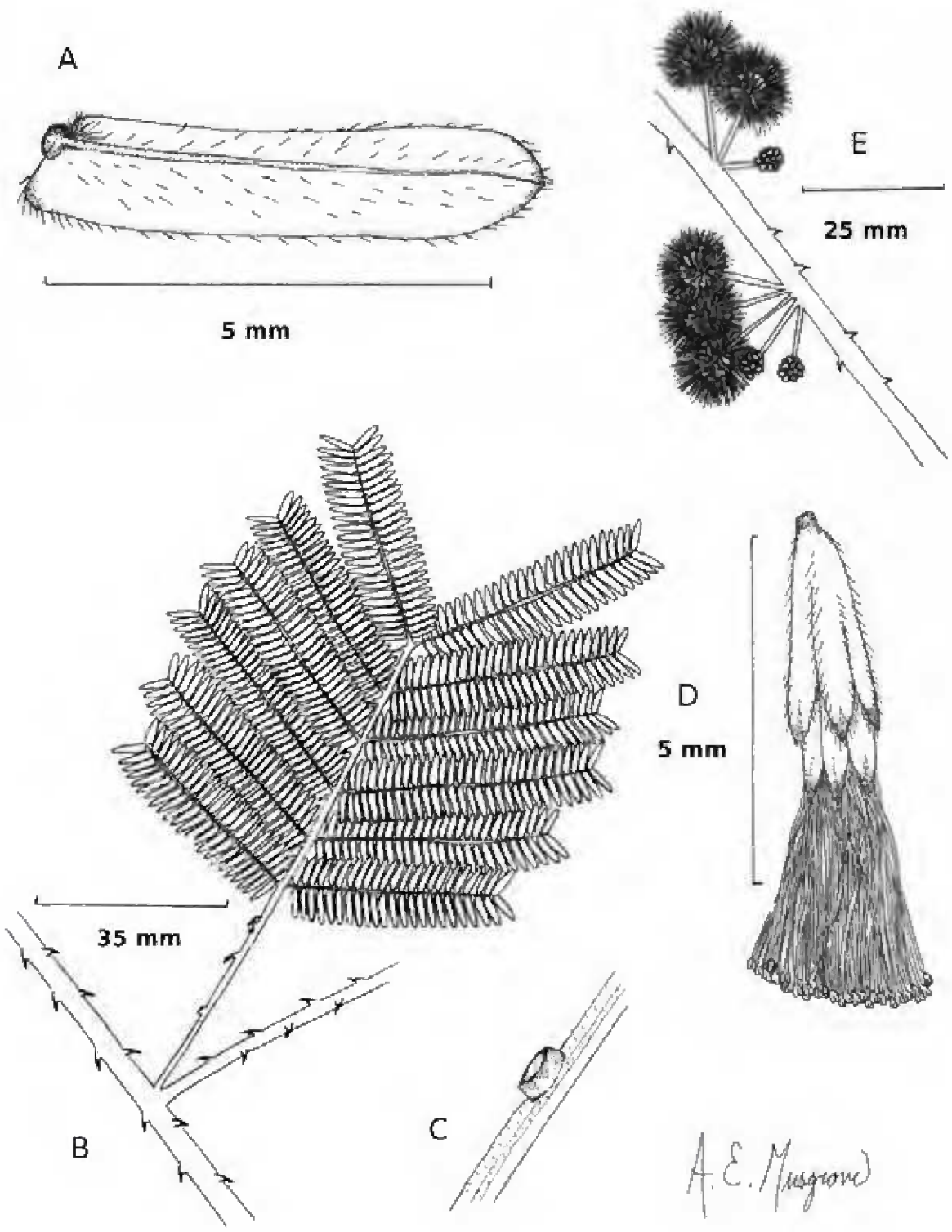

Figure 1. A. Leaflet, abaxial view; B. Leaf and portion of stem; C. Petiolar gland; D. Flower; E. portion of pseudoinflorescence